

APPENDIX B

**BIOLOGICAL RESOURCES AND REGULATORY
CONSTRAINTS MEMO**

Memo

To: Milt Eberle, WGID Enterprises

From: Sarah Vonderohe, Principal

Date: 3 October 2019

Subject: **Biological Resources and Regulatory Constraints Due Diligence Memo for the Stone-Boswell Property, Sacramento, California**

Dear Mr. Eberle:

At your request, Madrone Ecological Consulting, LLC (Madrone) completed a due diligence analysis of potential biological and regulatory constraints associated with the development of the Stone-Boswell Property (Study Area). This memo summarizes the results of a field survey and database review, as well as regulatory permits that may be necessary should the project result in impacts to any sensitive biological resources with potential to occur within the Study Area.

Location

The approximately 127-acre Stone-Boswell property is located northeast of the intersection of Cosumnes River Boulevard and Delta Shores Circle in the City of Sacramento, Sacramento County, California. The Study Area is located within Sections 7, 8, 17, and 18; Township 7 North; Range 5 East (MDB&M) of the "*Florin, California*" 7.5-Minute Series USGS Topographic Quadrangle (USGS 2015) (**Figure 1**).

Methodology

Prior to the field survey Madrone, senior biologist Matt Hirkala completed a desktop review of publicly available biological and regulatory information pertinent to the Study Area. Databases queried included the California Natural Diversity Database (CNDDDB); U.S. Fish and Wildlife Service (USFWS) National Wetland Inventory; USFWS Critical Habitat Mapper; Natural Resources Conservation Service (NRCS) Web Soil Survey; USFWS Information, Planning and Consultation System (IPaC); California Native Plant Society databases; historic aerial photography; and USGS topographic maps.

Mr. Hirkala, who also performed assessments at the site in 2005 and 2007, conducted a survey of the Study Area on 20 September 2019, the purpose of which was to determine whether the Study Area provided suitable habitat for special-status species and to map any potential aquatic resources that might be present. Mr. Hirkala conducted a meandering pedestrian survey of the Study Area and noted wildlife and plant species observed in addition to any suitable habitat for special-status species including elderberry (*Sambucus* species) shrubs and/or potential aquatic resources.

Results

Existing Site Conditions

Most of the site is characterized by flat terrain that has been historically leveled, ditched, and drained for agricultural use. The northern portion displayed uneven topography and contained trash piles and several gardens installed by neighbors. A residential development abuts the site to the north, while fallow agricultural lands occupy areas to the south and west. The eastern boundary borders the toe of a large levee constructed along Morrison Creek. A portion of the Sacramento Regional Transit Light Rail "Blue Line" (Light Rail) parallels the eastern boundary just west of Morrison Creek. A newly constructed Light Rail station and detention basin are located directly adjacent to the Light Rail line; this station is not currently in use.

The majority of the property currently supports fallow agricultural fields reverting to annual brome grasslands and are characterized by soft chess (*Bromus hordeaceus*), wild oats (*Avena fatua*), rip-gut brome (*Bromus diandrus*), and perennial rye (*Lolium perenne*). Common herbaceous species include prickly lettuce (*Lactuca serriola*), yellow star-thistle (*Centaurea solstitialis*), and alkali mallow (*Malvella leprosa*). The edges of the fields support ruderal vegetation, including stinkwort (*Dittrichia graveolens*), Russian thistle (*Salsola tragus*), tumbleweed amaranth (*Amaranthus albus*), pigweed amaranth (*A. blitoides*), rough cocklebur (*Xanthium strumarium*), wild radish (*Raphanus sativus*), milk thistle (*Silybum marianum*), and white goosefoot (*Chenopodium album*). The perimeter of the site was disked to form firebreaks, but vegetation was present in these areas. The area immediately south of the abutting residential development to the north support a variety of non-native and ornamental trees and shrubs including fruitless mulberry (*Morus alba*) and tree of heaven (*Ailanthus altissima*). A small thicket of willows (*Salix* spp.) and poison oak (*Toxicodendron diversilobum*) flank the banks of a small intermittent drainage in the southeast corner of the Study Area; a well-developed homeless encampment is present within this riparian corridor.

The NRCS mapped the six soil units listed below within the Project Area (NRCS 2019):

1. Clear Lake clay, partially drained, 0 to 2% slopes, frequently flooded (114) – the Clear Lake component and the Dierssen and Egbert inclusions are classified as hydric. This soil map unit is non-saline to slightly saline; and the pH ranges from slightly acid to moderately alkaline within the upper portion of the root zone.
2. Clear Lake clay, hardpan substratum, drained, 0 to 1% slopes (115) – the Clear Lake component and the Cosumnes inclusion are classified as hydric. This soil map unit is non-saline to very slightly saline; and the pH ranges from slightly acid to moderately alkaline within the upper portion of the root zone.
3. Egbert clay, partially drained, 0 to 2% slopes (141) - the Egbert component and the Clear Lake, Gazwell, Laugenour, Scribner, and Valpac inclusions are classified as hydric. This soil map unit is non-saline to very slightly saline; and the pH ranges from slightly acid to slightly alkaline within the upper portion of the root zone.

4. Galt clay, 0 to 1% slopes, MLRA 17 (152) – the Galt component and the Clear Lake inclusion are classified as hydric. This soil map unit is non-saline; and the pH ranges from slightly acid to neutral within the upper portion of the root zone.
5. Galt clay, 0 to 4% slopes, MLRA 17 (153) – the Galt component and the Clear Lake inclusion are within the root zone. classified as hydric. This soil map unit is non-saline; and the pH ranges from slightly acid to neutral within the upper portion of the root zone.
6. Galt-Urban land complex, 0 to 1% slopes, MLRA 17 (154) – the Galt component and the Clear Lake and Egbert inclusions are classified as hydric. This soil map unit is non-saline; and the pH ranges from slightly acid to neutral within the upper portion of the root zone.

Aquatic Resources

Approximately 0.543 acres of potential aquatic resources were mapped within the Study Area during the 2019 (Table 1). See Figure 2 for locations of the potential aquatic resources.

Table 1. Potential Aquatic Resources within the Study Area

Aquatic Resource Type	Study Area (ac.)
Detention Basin	0.242
Ephemeral Ditch	0.018
Intermittent Ditch	0.201
Intermittent Drainage	0.082
Total	0.543

Special-Status Species

A list of special-status species known to occur in the vicinity the Study Area was created based on the results of the above-listed database queries and is included in Table 2. Their potential to occur on-site based on the habitat present within the Study Area is also noted, along with their federal and state status.

Table 2. Special-Status Species with Potential to Occur within the Stone-Boswell Property

Special-Status Species	Federal Status	State Status	Potential for Occurrence
Plants			
Ferris's milk-vetch (<i>Astragalus tener</i> var. <i>ferrisiae</i>)	-	CRPR 1B.1	No habitat present
Watershield (<i>Brasenia schreberi</i>)	-	CRPR 2B.3	No habitat present
Bristly sedge (<i>Carex comosa</i>)	-	CRPR 2B.1	No habitat present
Pappose tarplant (<i>Centromadia parryi</i> ssp. <i>parryi</i>)	-	CRPR 1B.2	Low
Bolander's water-hemlock (<i>Cicuta maculata</i> var. <i>bolanderi</i>)	-	CRPR 2B.1	No habitat present
Peruvian dodder (<i>Cuscuta obtusiflora</i> var. <i>glandulosa</i>)	-	CRPR 2B.2	No habitat present
Dwarf downingia (<i>Downingia pusilla</i>)	-	CRPR 2B.2	Low
Bogg's lake hedge hyssop (<i>Gratiola heterosepala</i>)	-	CE/CRPR 1B.2	No habitat present
Woolly rose-mallow (<i>Hibiscus lasiocarpus</i> var. <i>occidentalis</i>)	-	CRPR 1B.2	No habitat present

Ahart's dwarf rush (<i>Juncus leiospermus</i> var. <i>ahartii</i>)	-	CRPR 1B.2	No habitat present
Delta tule pea (<i>Lathyrus jepsonii</i> var. <i>jepsonii</i>)	-	CRPR 1B.2	No habitat present
Legenere (<i>Legenere limosa</i>)	-	CRPR 1B.1	No habitat present
Heckard's pepper-grass (<i>Lepidium latipes</i> var. <i>heckardii</i>)	-	CRPR 1B.2	No habitat present
Mason's lilaeopsis (<i>Lilaeopsis masonii</i>)	-	CR/CRPR 1B.1	No habitat present
Slender Orcutt grass (<i>Orcuttia tenuis</i>)	FT	CE, CRPR 1B.1	No habitat present
Sacramento Orcutt grass (<i>Orcuttia viscida</i>)	FE	CE/CRPR 1B.1	No habitat present
Sanford's arrowhead (<i>Sagittaria sanfordii</i>)	-	CRPR 1B.2	Low
Marsh skullcap (<i>Scutellaria galericulata</i>)	-	CRPR 2B.2	No habitat present
Side-flowering skullcap (<i>Scutellaria lateriflora</i>)	-	CRPR 2B.2	No habitat present
Suisun marsh aster (<i>Symphotrichum lentum</i>)	-	CRPR 1B.2	No habitat present
Saline clover (<i>Trifolium hydrophilum</i>)	-	CRPR 1B.2	No habitat present
Wildlife			
Cooper's hawk (<i>Accipiter cooperii</i>)	-	-	Low
Western pond turtle (<i>Actinemys marmorata</i>)	-	CSC	Low
Tricolored blackbird (<i>Agelaius tricolor</i>)	-	CT, CSC	Low
California tiger salamander (<i>Ambystoma californiense</i>)	FT	CT	Outside of known range of species.
Pallid bat (<i>Antrozous pallidus</i>)	-	SSC, WBWG H	Low
Sacramento perch (<i>Archoplites interruptus</i>)	-	CSC	No habitat present
Great egret (<i>Ardea alba</i>)	-	-	Moderate
Great blue heron (<i>Ardea herodias</i>)	-	-	Moderate
Burrowing owl (<i>Athene cunicularia</i>)	-	CSC	High – Historic CNDDDB Occurrence #229 located in NE corner of Study Area. Species with active burrows was observed on-site in 2007.
Midvalley fairy shrimp (<i>Branchinecta mesovallensis</i>)	-	-	Low
Vernal pool fairy shrimp (<i>Branchinecta lynchi</i>)	FT	-	Low
Ferruginous hawk (<i>Buteo regalis</i>)	-	-	Moderate
Swainson's hawk (<i>Buteo swainsoni</i>)	-	CT	High
Western yellow-billed cuckoo (<i>Coccyzus americanus occidentalis</i>)	FT	CE	Low – believed to be extirpated from the area.
Townsend's big-eared bat (<i>Corynorhinus townsendii</i>)	-	CSC, WBWG H	No habitat present
Valley elderberry longhorn beetle (<i>Desmocerus californicus dimorphus</i>)	FT	-	No habitat present
White-tailed kite (<i>Elanus leucurus</i>)	-	FP	High
Merlin (<i>Falco columbarius</i>)	-	-	Moderate
Delta smelt (<i>Hypomesus transpacificus</i>)	FT	CT	No Habitat Present
Silver bat (<i>Lasionycteris noctivagans</i>)	-	WBWG M	Low
Hoary bat (<i>Lasiurus cinereus</i>)	-	WBWG M	Low

Vernal pool tadpole shrimp (<i>Lepidurus packardii</i>)	FE	-	Low – Historic CNDDB Occurrence #88 located in NE corner of Study Area
California linderiella (<i>Linderiella occidentalis</i>)	-	-	Low
Modesto population of song sparrow (<i>Melospiza melodia</i>)	-	CSC	Low
Black-crowned night heron (<i>Nycticorax nycticorax</i>)	-	-	Moderate
Central Valley steelhead (<i>Oncorhynchus mykiss irideus</i> pop. 11)	FT	-	No Habitat Present
Double-crested cormorant (<i>Phalacrocorax auritus</i>)	-	-	Low
Purple martin (<i>Progne subis</i>)	-	CSC	Low
Sacramento splittail (<i>Pogonichthys macrolepidotus</i>)	-	CSC	No habitat present
Longfin smelt (<i>Spirinchus thaleichthys</i>)	FCE	CT	No habitat present
American badger (<i>Taxidea taxus</i>)	-	CSC	Low
California red-legged frog (<i>Rana draytonii</i>)	FT	CSC	Outside of known range of species.
Yellow-headed blackbird (<i>Xanthocephalus xanthocephalus</i>)	-	CSC	Low
Giant garter snake (<i>Thamnophis gigas</i>)	FT	CT	Low

FT - Federally Threatened, FCE – Federal Candidate Endangered, CE - CDFW Endangered, CR – CDFW Rare, CRPR – California Rare Plant Rank, CSC - CDFW Species of Concern, CT - CDFW Threatened, WBWG H - Western Bat Working Group High Threat Rank, WBWG M - Western Bat Working Group Medium Threat Rank, WL - CDFW Watch List

Plants

The annual brome grasslands provide marginal habitat for Pappose tarplant, and some of the aquatic features represent marginally suitable habitat for dwarf downingia and Sanford’s arrowhead.

Invertebrates

Some of the aquatic resources within the Study Area provide very low quality habitat for vernal pool fairy shrimp, vernal pool tadpole shrimp, California linderiella, and midvalley fairy shrimp.

Reptiles

Due to the proximity of the Study Area to Morrison Creek, some of the aquatic resources within the Study Area may provide marginal seasonal habitat for giant garter snake and western pond turtle.

Birds

The annual brome grasslands currently provide appropriate foraging habitat for Cooper’s hawk, Swainson’s hawk, northern harrier, white-tailed kite, and ferruginous hawk, as well as other large raptors. Additionally, several large unoccupied nests are present in eucalyptus trees located on the parcel to the north. A small Himalayan blackberry thicket (*Rubus armeniacus*) provides marginally suitable nesting habitat and if they nested the annual brome grasslands would provide foraging habitat for tricolored blackbird. The aquatic features provide potential seasonal foraging habitat for great egret, great blue heron, black-crowned night heron, and double-crested cormorant. The annual brome grasslands provide suitable foraging habitat for purple martin.

Mr. Hirkala observed burrowing owls and active burrows within the Study Area during surveys performed in 2005 and 2007. These active burrows were located in the bank of the central drainage ditch; however, no

owls or signs of owls were noted during the most recent (2019) field survey. Additionally, the CNDDDB records active burrows in the northeastern corner of the parcel; however, this predates the local construction of the Light Rail "blue line," which may have extirpated this occurrence. Nonetheless, the annual brome grasslands represents suitable foraging habitat while ground squirrel burrows and debris piles provide nesting habitat for burrowing owl.

The only recorded occurrence of western yellow-billed cuckoo within the CNDDDB query is located approximately 3 miles southwest of the parcel near Clarksburg, but this is based on collection information from a specimen at the Museum of Vertebrate Zoology at Berkeley. Presently it is believed to be extirpated from the area. Though very marginal nesting and foraging habitat for this species is present, CNDDDB records indicate that it is unlikely to be found on or near the Study Area (CNDDDB 2019).

The only recorded occurrence of western yellow-headed blackbird within the CNDDDB search is located approximately 1.5 miles southwest of the parcel. This occurrence information is based on historical egg samples collected June 10, 1899, and kept at the Museum of Vertebrate Zoology at Berkeley. Presently it is believed to be extirpated from the area. Though very marginal nesting and foraging habitat for this species is present, CNDDDB records indicate that it is unlikely to be found on or near the Study Area (CNDDDB 2019).

The Study Area annual brome grasslands represent suitable winter foraging habitat for ferruginous hawk and merlin.

The willow thicket along the intermittent channel provides very marginal habitat for the "Modesto population" of song sparrow.

Mammals

The trees along the northern edge of the Study Area and the intermittent channel provide marginal roosting habitat for pallid bat, silver-haired bat, and hoary bat due to human encroachment from the residential development and homeless camp, respectively.

Though the annual brome grasslands provide appropriate foraging and burrowing habitat for American badger, the likelihood that this species occupies the site is low due to the increasing urbanization of the area.

Special Lands

Based on our queries, the Study Area is not located within any of the following special designated areas/habitats:

- The Primary or Secondary Zone of the Legal Delta;
- Critical Habitats as designated by the USFWS;
- USFWS Vernal Pool Core Recovery Areas.

Regulatory Permitting

The following permits may be necessary prior to the start of the proposed development.

Clean Water Act Section 404

Section 404 of the Federal Clean Water Act requires that a Department of the Army permit be issued prior to the discharge of any dredged or fill material into waters of the United States, unless the fill is associated with an exempt activity. The U.S. Army Corps of Engineers (USACE) administers this program, with oversight from the U. S. Environmental Protection Agency. Waters of the United States include all navigable waters; interstate waters and wetlands; all intrastate waters and wetlands that could affect interstate or foreign commerce; impoundments of the above; tributaries of the above; territorial seas; and wetlands adjacent to the above.

The intermittent channel historically connected to the navigable Sacramento River by way of Morrison Creek; it is therefore likely to be a jurisdictional Water of the U.S. As such, any fill deposited into this feature would likely require a 404 permit. The intermittent ditches, which appear to connect to the aforementioned intermittent channel, are also likely to be jurisdictional and any fill would likely require a 404 permit. The ephemeral ditches would likely be classified as exempt since these features do not appear to convey water from the Study Area to a traditional navigable water (TNW) such as the Sacramento River. The remaining feature is a detention basin and is not typically considered a jurisdictional Water of the U.S.

The aquatic resources delineation (ARD) map prepared by Madrone (**Figure 2**) meets the USACE's standards for wetland delineations. If you choose to move forward with development, Madrone would recommend submittal of an ARD report to the USACE for verification.

Clean Water Act Section 401

Section 401 of the Clean Water Act requires any applicant for a 404 permit in support of activities that may result in any discharge into waters of the United States to obtain a water quality certification with the Regional Water Quality Control Board (RWQCB). This program is meant to protect these waters and wetlands by ensuring that waste discharged into them meets state water quality standards. Because the water quality certification program is triggered by the need for a Section 404 permit (and both programs are a part of the Clean Water Act), the definition of waters of the United States under Section 401 is the same as that used by the USACE under Section 404.

Therefore, since a 404 permit is likely necessary should the proposed development impacts waters of the U.S., a water quality certification would also likely be required.

Federal Endangered Species Act

The Federal Endangered Species Act (FESA) of 1973 protects species that are federally listed as endangered or threatened with extinction. FESA prohibits the unauthorized "take" of listed wildlife species. Take includes harassing, harming, pursuing, hunting, shooting, wounding, killing, trapping, capturing, or collecting wildlife species or any attempt to engage in such activities. Harm includes significant

modifications or degradations of habitats that may cause death or injury to protected species by impairing their behavioral patterns. Harassment includes disruption of normal behavior patterns that may result in injury to or mortality of protected species. Civil or criminal penalties can be levied against persons convicted of unauthorized "take." FESA enables the USFWS to authorize take of a listed species that is incidental to carrying out an otherwise lawful project when the impacts of the authorized take will be minimized and fully mitigated. In addition, FESA prohibits malicious damage or destruction of listed plant species on federal lands or in association with federal actions, and the removal, cutting, digging up, damage, or destruction of listed plant species in violation of state law. FESA does not afford any protections to federally listed plant species located on private lands with no associated federal action when those plant species are not also included on a state endangered species list.

State Endangered Species Act

With limited exceptions, the California Endangered Species Act (CESA) of 1984 protects state-designated endangered and threatened species in a way similar to FESA. For projects on private property (i.e. that for which a state agency is not a lead agency), CESA enables CDFW to authorize take of a listed species that is incidental to carrying out an otherwise lawful project where the impacts of the authorized take will be minimized and fully mitigated (Fish & Game Code Section 2081).

Migratory Bird Treaty Act

The Migratory Bird Treaty Act (MBTA) prohibits the take, possession, import, export, transport, selling, purchase, barter, or offering for sale, purchase or barter, any native migratory bird, their eggs, parts, and nests, except as authorized under a valid permit (50 CFR 21.11.). Likewise, Section 3513 of the California Fish & Game Code prohibits the "take or possession" of any migratory non-game bird identified under the MBTA. Therefore, activities that may result in the injury or mortality of native migratory birds, including eggs and nestlings, would be prohibited under the MBTA.

Take or possession of native migratory birds may be avoided or minimized by conducting pre-construction nesting bird surveys. Nesting bird season is typically from 15 February to 15 September. Work within the Study Area outside the nesting season would not require a pre-construction nesting bird survey.

CDFW Lake and Streambed Alteration Agreement

The California Department of Fish and Wildlife (CDFW) is responsible for conserving, protecting, and managing California's fish, wildlife, and native plant resources. To meet this responsibility, the Fish and Game Code, Section 1602, requires notification to CDFW of any proposed activity that may substantially modify a river, stream, or lake. Notification is required by any person, business, state or local government agency, or public utility that proposes an activity that will:

- substantially divert or obstruct the natural flow of any river, stream or lake;
- substantially change or use any material from the bed, channel, or bank of any river, stream, or lake;
- or
- deposit or dispose of debris, waste, or other material containing crumbled, flaked, or ground pavement where it may pass into any river, stream, or lake.

For the purposes of Section 1602, rivers, streams and lakes must flow at least intermittently through a bed or channel. If notification is required and CDFW believes the proposed activity is likely to result in adverse harm to the natural environment, it will require that the parties enter into a Lake or Streambed Alteration Agreement (LSAA).

Based on the above language from the California Fish & Game Code, Madrone believes that the intermittent channel and ditches may fall under the jurisdiction of CDFW. However, the only mechanism to formally determine whether an LSAA is required is to submit a notification form and associated fee to CDFW under the LSAA program.

California Water Code, Porter-Cologne Act

The Porter Cologne Act, from Division 7 of the California Water Code, requires any person discharging waste or proposing to discharge waste that could affect the quality of waters of the state to file a report of waste discharge (RWD) with the RWQCB. The RWQCB can waive the filing of a report, but once a report is filed, the RWQCB must either waive or adopt water discharge requirements (WDRs). "Waters of the state" are defined as any surface water or groundwater, including saline waters, within the boundaries of the state and may include the above-described aquatic resources.

Recommendations

Since the Study Area contains potential habitat for federally listed large branchiopods (listed branchiopods), we recommend that protocol-level wet- and dry-season surveys be conducted within all suitable habitat within the Study Area to demonstrate the absence of the species and lower mitigation costs. In the event the site supports listed branchiopods, the project proponent will need to obtain take coverage through Section 7 (interagency consultation) or Section 10 of the FESA.

Any fill of the potential waters of the U.S. delineated within the Study Area would require a 404 permit and 401 water quality certification. In addition, some of these water features also may fall under CDFW jurisdiction and would require a Fish and Game Code 1602 LSAA in the event that the placement of fill or other forms of streambed alteration occur, as previously noted.

Since the Study Area contains potential habitat for special-status plants, we recommend species-specific surveys of the site prior to the start of work. Special-status plant surveys should be performed in accordance with the USFWS's *Guidelines for Conducting and Reporting Botanical Inventories for Federally Listed, Proposed and Candidate Plants* (USFWS 1996), California Department of Fish and Wildlife's *Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Natural Communities* (CDFG 2009), and the *CNPS Botanical Survey Guidelines* (CNPS 2001).

I would be happy to answer any questions you may have regarding this letter. Please contact me at (916) 822-3230 or at svonderohe@madroneeco.com if you have any questions or need additional information.

Sincerely,

A handwritten signature in blue ink that reads "Sarah VonderOhe". The signature is written in a cursive, flowing style.

Sarah VonderOhe
Principal

Enclosures

References

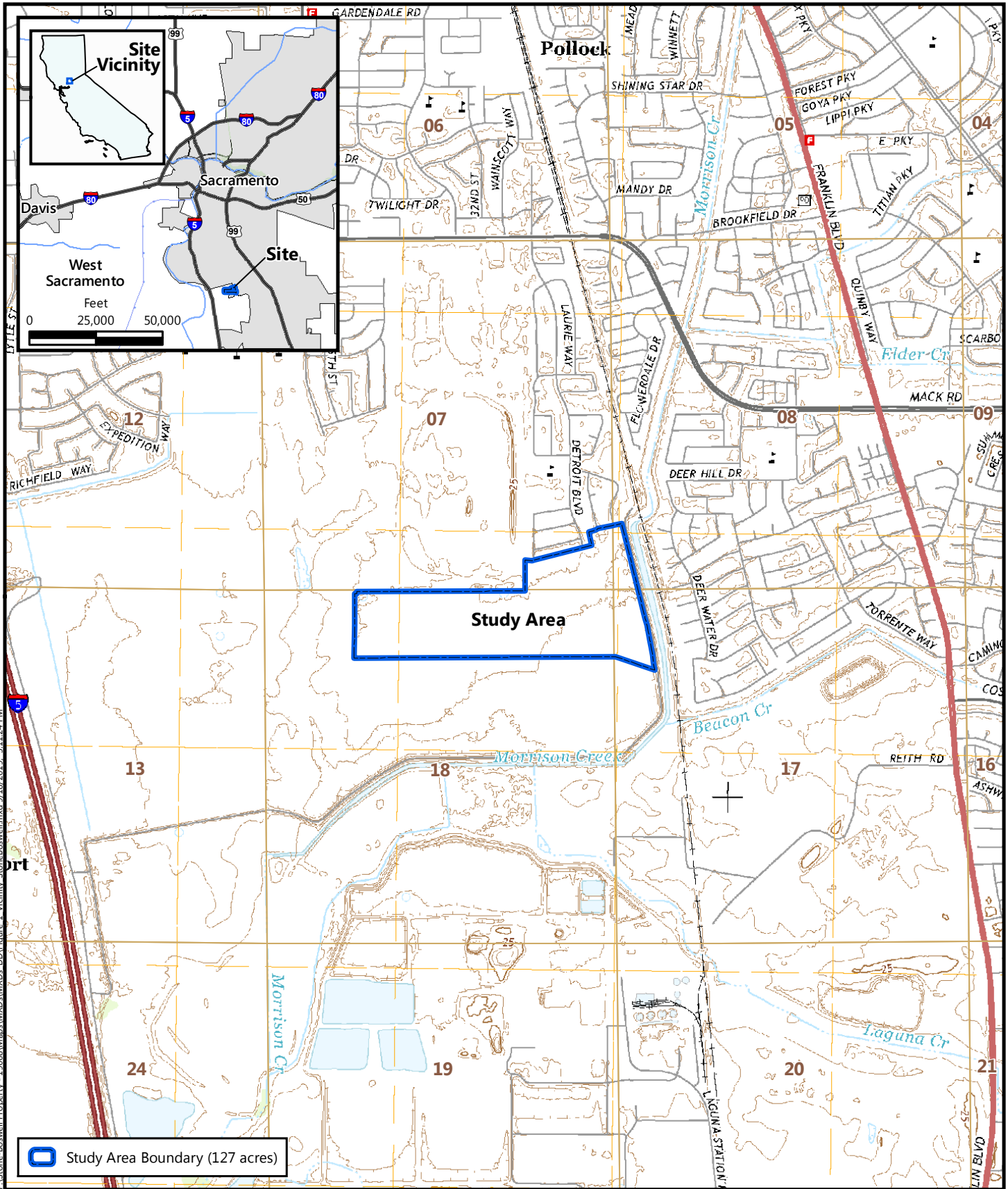
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Figures

Figure 1. Vicinity Map

Figure 2. Aquatic Resources



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Figure 1
Vicinity Map

Source: United States Geologic Survey, 2015.
 "Florin, California" 7.5-Minute Topographic Quadrangle
 Longitude -121.469195, Latitude 38.466003
 Sections 7-8, and 17-18, Township 7 North, Range 5 East

Stone-Boswell Property
 Sacramento, Sacramento County, California





-  Study Area Boundary (127 acres)
-  Culvert
- Aquatic Resources (0.543 acre)**
- Other Waters**
-  Detention Basin (0.242 acre)
-  Ephemeral Ditch (0.018 acre)
-  Intermittent Drainage (0.082 acre)
-  Intermittent Ditch (0.201 acre)

P:\Stone-Boswell Property - 19068\Mapes\MXD\S\MXD- DD\Figure 2_AquaticResources_StoneBoswell.mxd.mirkala_9/24/2019_1250

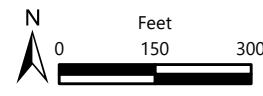


Figure 2
Aquatic Resources

Aerial Source: Sac Regional GIS Coop, 26 March 2018

Stone-Boswell Property
Sacramento, Sacramento County, California

